

NOTICE OF INTENT

Department of Environmental Quality
Office of the Secretary
Legal Affairs Division

Remediation of Sites with Contaminated Media
(LAC 33:V.105, 106, 199, and 5147) (HW092)

Under the authority of the Environmental Quality Act, R.S. 30:2001 et seq., and in accordance with the provisions of the Administrative Procedure Act, R.S. 49:950 et seq., the secretary gives notice that rulemaking procedures have been initiated to amend the Hazardous Waste regulations, LAC 33:V.105, 106, 199, and 5147 (Log #HW092).

This rule implements Act 778 of the 2006 Regular Session of the Louisiana Legislature and the provisions of Emergency Rule HW084E10, which was published in the *Louisiana Register* on November 20, 2006. The rule provides an evaluation process to manage listed hazardous waste based on risk for sites that are contaminated and require remediation. Act 778 authorizes a new fee for this evaluation. One of the most significant impediments to progress in the RCRA corrective action program has been the high cost of remediation waste management. Consequently, EPA has devoted much attention to management of remediation wastes and instituted a number of changes to the corrective action program that are designed to tailor management requirements to the risks posed by the wastes. Current regulation causes contaminated environmental media to retain the description of having RCRA-listed waste "contained-in," therefore complicating and impeding the remediation of the site or possibly halting it completely due to administration and disposal issues. This rule will remove a regulatory hurdle that deters site remediation by promulgating the guidance the Environmental Protection Agency (EPA) has recommended. The rule will also result in simplification of the waste handling process by reducing administrative requirements and providing greater consistency with non-RCRA waste handling requirements and practices. This will provide strong motivation to initiate and accelerate voluntary remediation of contaminated sites without increasing risks to human health or the environment. The basis and rationale for this rule are to initiate and promote voluntary remediation of contaminated sites without increasing risks to human health or the environment.

This proposed rule meets an exception listed in R.S. 30:2019(D)(2) and R.S. 49:953(G)(3); therefore, no report regarding environmental/health benefits and social/economic costs is required. This proposed rule has no known impact on family formation, stability, and autonomy as described in R.S. 49:972.

A public hearing will be held on January 24, 2007, at 1:30 p.m. in the Galvez Building, Oliver Pollock Conference Room, 602 N. Fifth Street, Baton Rouge, LA 70802. Interested persons are invited to attend and submit oral comments on the proposed amendments. Should individuals with a disability need an accommodation in order to participate, contact Judith A. Schuerman, Ph.D., at the address given below or at (225) 219-3550. Parking in the Galvez Garage is free with a validated parking ticket.

All interested persons are invited to submit written comments on the proposed regulation. Persons commenting should reference this proposed regulation by HW092. Such comments must be received no later than January 31, 2007, at 4:30 p.m., and should be sent to Judith A. Schuerman, Ph.D., Office of the Secretary, Legal Affairs Division, Box 4302, Baton Rouge, LA 70821-4302 or to FAX (225) 219-3582 or by e-mail to judith.schuerman@la.gov. Copies of this proposed regulation can be purchased by contacting the DEQ Public Records Center at (225) 219-3168. Check or money order is required in advance for each copy of HW092. This regulation is available on the Internet at www.deq.louisiana.gov/portal/tabid/1669/default.aspx.

This proposed regulation is available for inspection at the following DEQ office locations from 8 a.m. until 4:30 p.m.: 602 N. Fifth Street, Baton Rouge, LA 70802; 1823 Highway 546, West Monroe, LA 71292; State Office Building, 1525 Fairfield Avenue, Shreveport, LA 71101; 1301 Gadwall Street, Lake Charles, LA 70615; 111 New Center Drive, Lafayette, LA 70508; 110 Barataria Street, Lockport, LA 70374; 645 N. Lotus Drive, Suite C, Mandeville, LA 70471.

Herman Robinson, CPM
Executive Counsel

Title 33**ENVIRONMENTAL QUALITY****Part V. Hazardous Waste and Hazardous Materials****Subpart 1. Department of Environmental Quality—Hazardous Waste****Chapter 1. General Provisions and Definitions****105. Program Scope**

These rules and regulations apply to owners and operators of all facilities that generate, transport, treat, store, or dispose of hazardous waste, except as specifically provided otherwise herein. The procedures of these regulations also apply to the denial of a permit for the active life of a hazardous waste management facility or TSD unit under LAC 33:V.706. Definitions appropriate to these rules and regulations, including *solid waste* and *hazardous waste*, appear in LAC 33:V.109. Wastes that are excluded from regulation are found in this Section.

A. - O.2.c.vi. ...

P. Criteria for Hazardous Waste Being Managed Within an Area of Contamination. An area of contamination (AOC) is a discrete area of generally dispersed contamination, the designation of which has been approved by the administrative authority. Under certain conditions, environmental media impacted with hazardous waste may be moved within an AOC without triggering land disposal restrictions or minimum technology requirements. This approach encourages and expedites remedial actions where hazardous waste releases have occurred.

1. Any person who proposes to manage contaminated media within an AOC must submit the definition of the project's AOC to the Office of Environmental Assessment. Approval from the administrative authority concerning the extent of the AOC must occur prior to movement of contaminated media. In general the AOC should be consistent with the area impacted by the release

2. Use of an AOC to manage hazardous waste may be appropriate where the additional flexibility of a corrective action management unit pursuant to LAC 33:V.Chapter 26 is not needed. Movement and consolidation of contaminated media, treating contaminated media *in situ*, or leaving contaminated media in place in a single area or engineered unit within an AOC will not trigger the hazardous waste land disposal restrictions or minimum technology requirements of LAC 33:V.Subpart 1.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq., and in particular, 2186(A)(2).

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 11:1139 (December 1985), LR 12:319 (May 1986), LR 13:84 (February 1987), LR 13:433 (August 1987), LR 13:651 (November 1987), LR 14:790 (November 1988), LR 15:181 (March 1989), LR 16:47 (January 1990), LR 16:217, LR 16:220 (March 1990), LR 16:398 (May 1990), LR 16:614 (July 1990), LR 17:362, 368 (April 1991), LR 17:478 (May 1991), LR 17:883 (September 1991), LR 18:723 (July 1992), LR 18:1256 (November 1992), LR 18:1375 (December 1992), amended by the Office of the Secretary, LR 19:1022 (August 1993), amended by the Office of Solid and Hazardous Waste, Hazardous Waste

Division, LR 20:1000 (September 1994), LR 21:266 (March 1995), LR 21:944 (September 1995), LR 22:813, 831 (September 1996), amended by the Office of the Secretary, LR 23:298 (March 1997), amended by the Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 23:564, 567 (May 1997), LR 23:721 (June 1997), amended by the Office of Waste Services, Hazardous Waste Division, LR 23:952 (August 1997), LR 23:1511 (November 1997), LR 24:298 (February 1998), LR 24:655 (April 1998), LR 24:1093 (June 1998), LR 24:1687, 1759 (September 1998), LR 25:431 (March 1999), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:268 (February 2000), LR 26:2464 (November 2000), LR 27:291 (March 2001), LR 27:706 (May 2001), LR 29:317 (March 2003), LR 30:1680 (August 2004), amended by the Office of Environmental Assessment, LR 30:2463 (November 2004), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2451 (October 2005), LR 32:605 (April 2006), LR 32:821 (May 2006), LR 33: **.

§106. Hazardous Waste Determination for Contaminated Media

A. Except as otherwise provided in this Section, environmental media that contain hazardous waste subject to regulation under LAC 33:V.4901 or LAC 33:V.4903, shall be managed as hazardous waste. An environmental medium (soil/sediment, surface water, or groundwater) no longer contains a hazardous waste when:

1. the concentration of the hazardous constituent that serves as the basis for the waste being listed as hazardous (as defined in LAC 33:V.109 or as determined by the department on a case-by-case basis, e.g., creosote) remaining in the medium meets the appropriate standards described in this Section; and

2. the medium no longer exhibits any of the characteristics of hazardous waste identified in LAC 33:V.4903. Land disposal treatment standards (LAC 33:V.2299) shall continue to apply to contaminated environmental media that are treated and then determined to no longer contain hazardous waste. Contaminated environmental media determined not to contain any hazardous waste prior to treatment are not subject to any RCRA Subtitle C requirement, including the standards in LAC 33:V.2299.

B. Nonhazardous Environmental Medium (NHEM) Determination

1. Upon written request, the department may make a site-specific determination that an environmental medium contaminated with a listed hazardous waste at a concentration of the hazardous constituent at or below the level described in this Section no longer contains hazardous waste. Such a determination shall be known as a NHEM determination. A site-specific NHEM determination may be granted by the department contingent upon management of the environmental medium in accordance with any institutional control or other requirement described in the letter granting the request.

2. When a NHEM determination would be useful to expedite site remediation, a written request and payment of the fee in accordance with LAC 33:V.5147 may be submitted to the Office of Environmental Assessment. The request must demonstrate application of the process described in Paragraphs B.3-4 of this Section and that land disposal treatment standards are met when applicable.

3. A NHEM determination does not authorize the placement of contaminated media in, or establish remedial standards for, a particular area. Approval for placement of the contaminated medium in a specific area must be obtained from the Office of Environmental Assessment, unless it is otherwise allowed by regulation. Remedial standards for areas of

contamination shall be established in accordance with the Risk Evaluation/Corrective Action Program (RECAP) as incorporated by reference in LAC 33:I.1307.

4. The identification, development, and application of the standards for media to be determined to no longer contain hazardous waste shall comply with the following process.

a. Determine the area of investigation (AOI). The AOI is a zone contiguous to and including impacted media, defined vertically and horizontally by the presence of one or more constituents in concentrations exceeding a limiting standard.

b. Identify the area of investigation concentration (AOIC). The AOIC is to be identified by the maximum detected concentration of the constituent of concern (COC) in the AOI or the upper bound estimate (e.g. upper confidence limit) of the arithmetic mean concentration of the COC.

Note: The department recommends that the upper bound estimate of the arithmetic mean concentration be identified as the concentration recommended by the *ProUCL* program, a software program available from EPA's Technical Support Center for Monitoring and Site Characterization (www.epa.gov/nerlesd1/tsc/form.htm).

c. Determine the soil standard ($Soil_{NHEM}$). The soil standards are presented in Table 1 of this Section. For a constituent not included in Table 1, the applicant shall calculate a value using the appropriate equation and input values from LAC 33:V.199.Appendix A. Compare the soil standard to the AOIC. If the AOIC detected for a COC does not exceed the soil standard, then a NHEM determination may be made.

d. Identify the groundwater exposure concentration (EC). The EC shall be identified as the maximum concentration of COC detected in the groundwater AOI.

e. Determine the groundwater standard (GW_{NHEM}). The groundwater standards are presented in Table 1 of this Section. If a detected groundwater constituent cannot be found in Table 1, then the maximum contaminant level (MCL), contained in the National Primary Drinking Water regulations (40 CFR Part 141), multiplied by 100 is to be used as the groundwater standard. If an MCL is not available then a groundwater standard is to be calculated in accordance with appropriate equations and input values from LAC 33:V.199.Appendix A. Compare the groundwater EC to the groundwater standard. If quantitative values for constituents are less than the limiting standards, the groundwater may qualify for a NHEM determination.

Table 1			
Soil and Groundwater Standards			
Compound	CAS #	$Soil_{NHEM}$ (mg/kg)	GW_{NHEM} (mg/l)
<u>Acenaphthene</u>	<u>83-32-9</u>	<u>6.1E+05</u>	<u>3.7E+02</u>
<u>Acenaphthylene</u>	<u>208-96-8</u>	<u>5.1E+05</u>	<u>3.7E+02</u>
<u>Acetone</u>	<u>67-64-1</u>	<u>1.4E+05</u>	<u>6.1E+02</u>
<u>Aldrin</u>	<u>309-00-2</u>	<u>1.3E+00</u>	<u>3.9E-03</u>
<u>Aniline</u>	<u>62-53-3</u>	<u>1.7E+03</u>	<u>1.2E+01</u>
<u>Anthracene</u>	<u>120-12-7</u>	<u>1.0E+06</u>	<u>1.8E+03</u>
<u>Antimony</u>	<u>7440-36-0</u>	<u>8.2E+03</u>	<u>6.0E-01</u>
<u>Arsenic</u>	<u>7440-38-2</u>	<u>2.7E+01</u>	<u>1.0E+00</u>
<u>Barium</u>	<u>7440-39-3</u>	<u>1.0E+06</u>	<u>2.0E+02</u>

Table 1			
Soil and Groundwater Standards			
<u>Compound</u>	<u>CAS #</u>	<u>Soil_{NHEM} (mg/kg)</u>	<u>GW_{NHEM} (mg/l)</u>
<u>Benzene</u>	<u>71-43-2</u>	<u>3.1E+01</u>	<u>5.0E-01</u>
<u>Benz(a)anthracene</u>	<u>56-55-3</u>	<u>2.9E+01</u>	<u>9.1E-02</u>
<u>Benzo(a)pyrene</u>	<u>50-32-8</u>	<u>2.9E+00</u>	<u>2.0E-02</u>
<u>Benzo(b)fluoranthene</u>	<u>205-99-2</u>	<u>2.9E+01</u>	<u>9.1E-02</u>
<u>Benzo(k)fluoranthene</u>	<u>207-08-9</u>	<u>2.9E+02</u>	<u>9.1E-01</u>
<u>Beryllium</u>	<u>7440-41-7</u>	<u>4.1E+04</u>	<u>4.0E-01</u>
<u>Biphenyl,1,1-</u>	<u>92-52-4</u>	<u>4.4E+05</u>	<u>3.0E+02</u>
<u>Bis(2-chloroethyl)ether</u>	<u>111-44-4</u>	<u>1.1E+01</u>	<u>9.6E-03</u>
<u>Bis(2-chloroisopropyl)ether</u>	<u>108-60-1</u>	<u>1.7E+02</u>	<u>2.7E-01</u>
<u>Bis(2-ethyl-hexyl)phthalate</u>	<u>117-81-7</u>	<u>1.7E+03</u>	<u>6.0E-01</u>
<u>Bromodichloromethane</u>	<u>75-27-4</u>	<u>4.2E+01</u>	<u>1.0E+01</u>
<u>Bromoform</u>	<u>75-25-2</u>	<u>1.8E+03</u>	<u>1.0E+01</u>
<u>Bromomethane</u>	<u>74-83-9</u>	<u>3.0E+02</u>	<u>8.7E+00</u>
<u>Butyl benzyl phthalate</u>	<u>85-68-7</u>	<u>1.0E+06</u>	<u>7.3E+03</u>
<u>Cadmium</u>	<u>7440-43-9</u>	<u>1.0E+04</u>	<u>5.0E-01</u>
<u>Carbon Disulfide</u>	<u>75-15-0</u>	<u>2.5E+04</u>	<u>1.0E+03</u>
<u>Carbon Tetrachloride</u>	<u>56-23-5</u>	<u>1.1E+01</u>	<u>5.0E-01</u>
<u>Chlordane</u>	<u>57-74-9</u>	<u>1.0E+02</u>	<u>2.0E-01</u>
<u>Chloroaniline,p-</u>	<u>106-47-8</u>	<u>1.7E+04</u>	<u>1.5E+02</u>
<u>Chlorobenzene</u>	<u>108-90-7</u>	<u>1.2E+04</u>	<u>1.0E+01</u>
<u>Chlorodibromomethane</u>	<u>124-48-1</u>	<u>5.4E+01</u>	<u>1.0E+01</u>
<u>Chloroethane (Ethylchloride)</u>	<u>75-00-3</u>	<u>8.2E+01</u>	<u>3.8E+00</u>
<u>Chloroform</u>	<u>67-66-3</u>	<u>1.2E+01</u>	<u>1.0E+01</u>
<u>Chloromethane</u>	<u>74-87-3</u>	<u>7.3E+01</u>	<u>1.5E+00</u>
<u>Chloronaphthalene,2-</u>	<u>91-58-7</u>	<u>8.3E+05</u>	<u>4.9E+02</u>
<u>Chlorophenol,2-</u>	<u>95-57-8</u>	<u>1.4E+04</u>	<u>3.0E+01</u>
<u>Chromium(III)</u>	<u>16065-83-1</u>	<u>1.0E+06</u>	<u>1.0E+01</u>
<u>Chromium(VI)</u>	<u>18540-29-97</u>	<u>6.1E+04</u>	<u>1.0E+01</u>
<u>Chrysene</u>	<u>218-01-9</u>	<u>2.9E+03</u>	<u>9.1E+00</u>
<u>Cobalt</u>	<u>7440-48-4</u>	<u>1.0E+06</u>	<u>2.2E+03</u>
<u>Copper</u>	<u>7440-50-8</u>	<u>8.2E+05</u>	<u>1.3E+02</u>
<u>Cyanide (free)</u>	<u>57-12-5</u>	<u>3.6E+05</u>	<u>2.0E+01</u>
<u>DDD</u>	<u>72-54-8</u>	<u>1.6E+02</u>	<u>2.8E-01</u>
<u>DDE</u>	<u>72-55-9</u>	<u>1.1E+02</u>	<u>2.0E-01</u>
<u>DDT</u>	<u>50-29-3</u>	<u>1.2E+02</u>	<u>2.0E-01</u>
<u>Dibenz(a,h)anthracene</u>	<u>53-70-3</u>	<u>2.9E+00</u>	<u>9.1E-03</u>
<u>Dibenzofuran</u>	<u>132-64-9</u>	<u>6.5E+04</u>	<u>2.4E+01</u>
<u>Dibromo-3-chloropropane,1,2-</u>	<u>96-12-8</u>	<u>1.8E+01</u>	<u>2.0E-02</u>
<u>Dichlorobenzene,1,2-</u>	<u>95-50-1</u>	<u>7.4E+04</u>	<u>6.0E+01</u>
<u>Dichlorobenzene,1,3-</u>	<u>541-73-1</u>	<u>1.8E+03</u>	<u>5.5E+00</u>
<u>Dichlorobenzene,1,4-</u>	<u>106-46-7</u>	<u>1.6E+02</u>	<u>7.5E+00</u>

Table 1			
Soil and Groundwater Standards			
<u>Compound</u>	<u>CAS #</u>	<u>Soil_{NHEM} (mg/kg)</u>	<u>GW_{NHEM} (mg/l)</u>
<u>Dichlorobenzidine,3,3-</u>	<u>91-94-1</u>	<u>4.2E+01</u>	<u>1.5E-01</u>
<u>Dichloroethane,1,1-</u>	<u>75-34-3</u>	<u>4.7E+04</u>	<u>8.1E+02</u>
<u>Dichloroethane,1,2-</u>	<u>107-06-2</u>	<u>1.8E+01</u>	<u>5.0E-01</u>
<u>Dichloroethene,1,1-</u>	<u>75-35-4</u>	<u>9.1E+03</u>	<u>7.0E-01</u>
<u>Dichloroethene,cis,1,2-</u>	<u>156-59-2</u>	<u>3.4E+03</u>	<u>7.0E+00</u>
<u>Dichloroethene,trans,1,2-</u>	<u>156-60-5</u>	<u>4.8E+03</u>	<u>1.0E+01</u>
<u>Dichlorophenol,2,4-</u>	<u>120-83-2</u>	<u>2.0E+04</u>	<u>1.1E+02</u>
<u>Dichloropropane,1,2-</u>	<u>78-87-5</u>	<u>1.8E+01</u>	<u>5.0E-01</u>
<u>Dichloropropene,1,3-</u>	<u>542-75-6</u>	<u>1.0E+02</u>	<u>3.9E-01</u>
<u>Dieldrin</u>	<u>60-57-1</u>	<u>1.5E+00</u>	<u>4.1E-03</u>
<u>Diethylphthalate</u>	<u>84-66-2</u>	<u>1.0E+06</u>	<u>2.9E+04</u>
<u>Dimethylphenol,2,4-</u>	<u>105-67-9</u>	<u>1.1E+05</u>	<u>7.3E+02</u>
<u>Dimethylphthalate</u>	<u>131-11-3</u>	<u>1.0E+06</u>	<u>3.7E+05</u>
<u>Di-n-octylphthalate</u>	<u>117-84-0</u>	<u>3.5E+05</u>	<u>1.5E+03</u>
<u>Dinitrobenzene,1,3-</u>	<u>99-65-0</u>	<u>5.0E+02</u>	<u>3.7E+00</u>
<u>Dinitrophenol,2,4-</u>	<u>51-28-5</u>	<u>6.9E+03</u>	<u>7.3E+01</u>
<u>Dinitrotoluene,2,6-</u>	<u>606-20-2</u>	<u>4.6E+03</u>	<u>3.7E+01</u>
<u>Dinitrotoluene,2,4-</u>	<u>121-14-2</u>	<u>9.8E+03</u>	<u>7.3E+01</u>
<u>Dinoseb</u>	<u>88-85-7</u>	<u>5.4E+03</u>	<u>7.0E-01</u>
<u>Endosulfan</u>	<u>115-29-7</u>	<u>4.5E+04</u>	<u>2.2E+02</u>
<u>Endrin</u>	<u>72-20-8</u>	<u>2.5E+03</u>	<u>2.0E-01</u>
<u>Ethyl benzene</u>	<u>100-41-4</u>	<u>1.3E+05</u>	<u>7.0E+01</u>
<u>Fluoranthene</u>	<u>206-44-0</u>	<u>2.9E+05</u>	<u>1.5E+03</u>
<u>Fluorene</u>	<u>86-73-7</u>	<u>5.4E+05</u>	<u>2.4E+02</u>
<u>Heptachlor</u>	<u>76-44-8</u>	<u>3.5E-01</u>	<u>4.0E-02</u>
<u>Heptachlor epoxide</u>	<u>1024-57-3</u>	<u>2.6E+00</u>	<u>2.0E-02</u>
<u>Hexachlorobenzene</u>	<u>118-74-1</u>	<u>2.0E+01</u>	<u>1.0E-01</u>
<u>Hexachlorobutadiene</u>	<u>87-68-3</u>	<u>1.6E+02</u>	<u>8.5E-01</u>
<u>Hexachlorocyclohexane,alpha</u>	<u>319-84-6</u>	<u>4.4E+00</u>	<u>1.1E-02</u>
<u>Hexachlorocyclohexane,beta</u>	<u>319-85-7</u>	<u>1.6E+01</u>	<u>3.7E-02</u>
<u>Hexachlorocyclohexane,gamma</u>	<u>58-89-9</u>	<u>2.0E+01</u>	<u>2.0E-02</u>
<u>Hexachlorocyclopentadiene</u>	<u>77-47-4</u>	<u>9.4E+02</u>	<u>5.0E+00</u>
<u>Hexachloroethane</u>	<u>67-72-1</u>	<u>1.4E+03</u>	<u>7.9E-01</u>
<u>Indeno(1,2,3-cd)pyrene</u>	<u>193-39-5</u>	<u>2.9E+01</u>	<u>9.1E-02</u>
<u>Isobutyl alcohol</u>	<u>78-83-1</u>	<u>6.2E+05</u>	<u>1.1E+04</u>
<u>Isophorone</u>	<u>78-59-1</u>	<u>1.1E+04</u>	<u>7.0E+01</u>
<u>Lead (inorganic)</u>	<u>7439-92-1</u>	<u>3.4E+04</u>	<u>1.5E+00</u>
<u>Mercury (inorganic)</u>	<u>7487-94-7</u>	<u>6.1E+03</u>	<u>2.0E-01</u>
<u>Methoxychlor</u>	<u>72-43-5</u>	<u>4.3E+04</u>	<u>4.0E+00</u>
<u>Methylene chloride</u>	<u>75-09-2</u>	<u>4.4E+02</u>	<u>5.0E-01</u>
<u>Methyl ethyl ketone</u>	<u>78-93-3</u>	<u>4.4E+05</u>	<u>1.9E+03</u>

Table 1			
Soil and Groundwater Standards			
<u>Compound</u>	<u>CAS #</u>	<u>Soil_{NHEM} (mg/kg)</u>	<u>GW_{NHEM} (mg/l)</u>
<u>Methyl isobutyl ketone</u>	<u>108-10-1</u>	<u>6.3E+05</u>	<u>2.0E+03</u>
<u>Methylnaphthalene,2-</u>	<u>91-57-6</u>	<u>1.7E+04</u>	<u>6.2E+00</u>
<u>MTBE (methyl tert-butyl ether)</u>	<u>1634-04-4</u>	<u>4.7E+05</u>	<u>2.0E+00</u>
<u>Naphthalene</u>	<u>91-20-3</u>	<u>4.3E+03</u>	<u>6.2E+00</u>
<u>Nickel</u>	<u>7440-02-0</u>	<u>4.1E+05</u>	<u>7.3E+02</u>
<u>Nitrate</u>	<u>14797-55-8</u>	<u>1.0E+06</u>	<u>1.0E+03</u>
<u>Nitrite</u>	<u>14797-65-0</u>	<u>1.0E+06</u>	<u>1.0E+02</u>
<u>Nitroaniline,2-</u>	<u>88-74-4</u>	<u>5.2E+01</u>	<u>2.1E-01</u>
<u>Nitroaniline,3-</u>	<u>99-09-2</u>	<u>1.4E+04</u>	<u>1.8E+01</u>
<u>Nitroaniline,4-</u>	<u>100-01-6</u>	<u>1.0E+04</u>	<u>1.1E+02</u>
<u>Nitrobenzene</u>	<u>98-95-3</u>	<u>2.5E+03</u>	<u>3.4E+00</u>
<u>Nitrophenol,4-</u>	<u>100-02-7</u>	<u>3.3E+04</u>	<u>2.9E+02</u>
<u>Nitrosodi-n-propylamine,n-</u>	<u>621-64-7</u>	<u>1.4E+00</u>	<u>9.5E-03</u>
<u>N-nitrosodiphenylamine</u>	<u>86-30-6</u>	<u>4.0E+03</u>	<u>1.4E+01</u>
<u>Pentachlorophenol</u>	<u>87-86-5</u>	<u>9.7E+01</u>	<u>1.0E-01</u>
<u>Phenanthrene</u>	<u>85-01-8</u>	<u>1.0E+06</u>	<u>1.8E+03</u>
<u>Phenol</u>	<u>108-95-2</u>	<u>1.0E+06</u>	<u>1.8E+03</u>
<u>Polychlorinated biphenyls</u>	<u>1336-36-3</u>	<u>9.0E+00</u>	<u>5.0E-02</u>
<u>Pyrene</u>	<u>129-00-0</u>	<u>5.6E+05</u>	<u>1.8E+02</u>
<u>Selenium</u>	<u>7782-49-2</u>	<u>1.0E+05</u>	<u>5.0E+00</u>
<u>Silver</u>	<u>7440-22-4</u>	<u>1.0E+05</u>	<u>1.8E+02</u>
<u>Styrene</u>	<u>100-42-5</u>	<u>4.3E+05</u>	<u>1.0E+01</u>
<u>Tetrachlorobenzene,1,2,4,5-</u>	<u>95-94-3</u>	<u>1.2E+03</u>	<u>1.1E+01</u>
<u>Tetrachloroethane,1,1,1,2-</u>	<u>630-20-6</u>	<u>5.9E+01</u>	<u>4.3E-01</u>
<u>Tetrachloroethane,1,1,2,2-</u>	<u>79-34-5</u>	<u>2.0E+01</u>	<u>5.5E-02</u>
<u>Tetrachloroethylene</u>	<u>127-18-4</u>	<u>3.5E+02</u>	<u>5.0E-01</u>
<u>Tetrachlorophenol,2,3,4,6-</u>	<u>58-90-2</u>	<u>1.7E+05</u>	<u>1.1E+03</u>
<u>Thallium</u>	<u>7440-28-0</u>	<u>1.4E+03</u>	<u>2.0E-01</u>
<u>Toluene</u>	<u>108-88-3</u>	<u>4.7E+04</u>	<u>1.0E+02</u>
<u>Toxaphene</u>	<u>8001-35-2</u>	<u>2.2E+01</u>	<u>3.0E-01</u>
<u>Trichlorobenzene,1,2,4-</u>	<u>120-82-1</u>	<u>1.2E+05</u>	<u>7.0E+00</u>
<u>Trichloroethane,1,1,1-</u>	<u>71-55-6</u>	<u>7.0E+04</u>	<u>2.0E+01</u>
<u>Trichloroethane,1,1,2-</u>	<u>79-00-5</u>	<u>4.3E+01</u>	<u>5.0E-01</u>
<u>Trichloroethene</u>	<u>79-01-6</u>	<u>2.1E+00</u>	<u>5.0E-01</u>
<u>Trichlorofluoromethane</u>	<u>75-69-4</u>	<u>2.6E+04</u>	<u>1.3E+03</u>
<u>Trichlorophenol,2,4,5-</u>	<u>95-95-4</u>	<u>6.6E+05</u>	<u>3.7E+03</u>
<u>Trichlorophenol,2,4,6-</u>	<u>88-06-2</u>	<u>1.7E+03</u>	<u>6.0E+00</u>
<u>Vanadium</u>	<u>7440-62-2</u>	<u>1.4E+05</u>	<u>2.6E+02</u>
<u>Vinyl chloride</u>	<u>75-01-4</u>	<u>7.9E+00</u>	<u>2.0E-01</u>
<u>Xylene(mixed)</u>	<u>1330-20-7</u>	<u>1.2E+04</u>	<u>1.0E+03</u>
<u>Zinc</u>	<u>7440-66-6</u>	<u>1.0E+06</u>	<u>1.1E+04</u>

Table 1			
Soil and Groundwater Standards			
Compound	CAS #	Soil_{NHEM} (mg/kg)	GW_{NHEM} (mg/l)
Aliphatics C6-C8	NA	1.0E+04	3.2E+04
Aliphatics >C8-C10	NA	1.0E+04	1.3E+03
Aliphatics >C10-C12	NA	1.0E+04	1.4E+03
Aliphatics >C12-C16	NA	1.0E+04	1.4E+03
Aliphatics >C16-C35	NA	1.0E+04	7.3E+04
Aromatics >C8-C10	NA	1.0E+04	3.4E+02
Aromatics >C10-C12	NA	1.0E+04	3.4E+02
Aromatics >C12-C16	NA	1.0E+04	3.4E+02
Aromatics >C16-C21	NA	1.0E+04	1.1E+03
Aromatics >C21-C35	NA	1.0E+04	1.1E+03
TPH-GRO (C6-C10)	NA	1.0E+04	3.4E+02
TPH-DRO (C10-C28)	NA	1.0E+04	3.4E+02
TPH-ORO (>C28)	NA	1.0E+04	1.1E+03

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq. and, in particular, 2186(A)(2).

HISTORICAL NOTE: Promulgated by the Office of the Secretary, Legal Affairs Division, LR 33:***.

§199. Appendix A—Equations for the Development of Soil and Groundwater Standards

Soil_{NHEM}- Carcinogenic Effects - Organic Constituents (mg/kg):

$$EF_i \times ED_i \times \left[\left(SF_o \times 10^{-6} \frac{kg}{mg} \times IRS_i \right) + \left(SF_i \times IRA_a \times \left(\frac{1}{VF_i} \right) \right) + \left(SF_o \times SA_i \times AF_i \times ABS \times 10^{-6} \frac{kg}{mg} \right) \right] \times \frac{TR \times BW_a \times AT_c \times 365 \text{ days / yr}}{c} \quad (EQ1)$$

<u>Parameter</u>	<u>Definition (units)</u>	<u>Input Value</u>
<u>Soil_{NHEM}</u>	<u>NHEM industrial risk-based chemical concentration in soil/ sediment (mg/kg)</u>	<u>==</u>
<u>TR</u>	<u>Target excess individual lifetime cancer risk (unitless)</u>	<u>10⁻⁵</u>
<u>SF_o</u>	<u>Oral cancer slope factor ((mg/kg-day)⁻¹)</u>	<u>CS_a</u>
<u>SF_i</u>	<u>Inhalation cancer slope factor ((mg/kg-day)⁻¹)</u>	<u>CS_a</u>
<u>BW_a</u>	<u>Average adult body weight (kg)</u>	<u>70_b</u>
<u>AT_c</u>	<u>Averaging time - carcinogens (yr)</u>	<u>70_b</u>
<u>EF_i</u>	<u>Industrial exposure frequency (days/yr)</u>	<u>250_b</u>
<u>ED_i</u>	<u>Industrial exposure duration (yr)</u>	<u>25_b</u>
<u>IRS_i</u>	<u>Industrial soil ingestion rate (mg/day)</u>	<u>50_b</u>

Parameter	Definition (units)	Input Value
IRA_a	Adult inhalation rate (m^3/day)	20^c
VF_i	Industrial soil-to-air volatilization factor (m^3/kg)	CS^d
SA_i	Skin surface area for an industrial worker (cm^2/day)	$3,300^c$
AF_i	Soil-to-skin adherence factor for an industrial worker (mg/cm^2)	0.2^c
ABS	Dermal absorption factor (unitless)	CS^c

^a Chemical-specific; refer to EPA's Integrated Risk Information System (<http://www.epa.gov/iris/subst/index.html>) or other appropriate EPA reference.

^b *Soil Screening Guidance: User's Guide*, EPA 1996.

^c *Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment)*, EPA/540/R-99/005.

^d Chemical-specific; refer to EQ5.

^e Chemical-specific; refer to Table A-1.

Soil_{NHEM} - Carcinogenic Effects - Inorganic Constituents (mg/kg):

$$EF_i \times ED_i \times \left[\left(SF_o \times 10^{-6} \frac{kg}{mg} \times IRS_i \right) + \left(SF_o \times SA_i \times AF_i \times ABS \times 10^{-6} \frac{kg}{mg} \right) \right] \quad (EQ2)$$

Parameter	Definition (units)	Input Value
$Soil_{NHEM}$	NHEM industrial risk-based chemical concentration in soil/ sediment (mg/kg)	--
TR	Target excess individual lifetime cancer risk (unitless)	10^{-5}
SF_o	Oral cancer slope factor ($(mg/kg-day)^{-1}$)	CS^b
BW_a	Average adult body weight (kg)	70^b
AT_c	Averaging time - carcinogens (yr)	70^b
EF_i	Industrial exposure frequency (days/yr)	250^b
ED_i	Industrial exposure duration (yr)	25^b
IRS_i	Industrial soil ingestion rate (mg/day)	50^b
SA_i	Skin surface area for an industrial worker (cm^2/day)	$3,300^c$
AF_i	Soil-to-skin adherence factor for an industrial worker (mg/cm^2)	0.2^c
ABS	Dermal absorption factor (unitless)	CS^d

^a Chemical-specific; refer to EPA's Integrated Risk Information System (<http://www.epa.gov/iris/subst/index.html>) or other appropriate EPA reference.

^b *Soil Screening Guidance: User's Guide*, EPA 1996.

^c *Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment)*, EPA/540/R-99/005.

^d Chemical-specific; refer to EQ5.

^e Chemical-specific; refer to Table A-1.

Soil_{NHEM} – Noncarcinogenic Effects - Organic Constituents (mg/kg):

$$ED_i \times EF_i \times \left[\left(\left(\frac{1}{RfD_o} \right) \times 10^{-6} \frac{kg}{mg} \times IRS_i \right) + \left(\left(\frac{1}{RfD_i} \right) \times IRA_a \times \left(\frac{1}{VF_i} \right) \right) + \left(\left(\frac{1}{RfD_o} \right) \times 10^{-6} \frac{kg}{mg} \times SA_i \times AF_i \times ABS \right) \right] \times \frac{THQ \times BW_a \times AT_{ni} \times 365 \text{ days / yr}}{\quad} \quad (EQ3)$$

Parameter	Definition (units)	Input Value
Soil _{NHEM}	NHEM industrial risk-based chemical concentration in soil/ sediment (mg/kg)	--
THQ	Target hazard quotient (unitless)	10
RfD _o	Oral reference dose (mg/kg-day)	CS ^a
RfD _i	Inhalation reference dose (mg/kg-day)	CS ^a
BW _a	Average adult body weight (kg)	70 ^b
AT _{ni}	Averaging time - noncarcinogens, industrial (yr)	25 ^b
EF _i	Industrial exposure frequency (days/yr)	250 ^b
ED _i	Industrial exposure duration (yr)	25 ^b
IRS _i	Industrial soil ingestion rate (mg/day)	50 ^b
IRA _a	Adult inhalation rate (m ³ /day)	20 ^c
VF _i	Industrial soil-to-air volatilization factor (m ³ /kg)	CS ^d
SA _i	Skin surface area for an industrial worker (cm ² /day)	3,300 ^c
AF _i	Soil-to-skin adherence factor for an industrial worker (mg/cm ²)	0.2 ^c
ABS	Dermal absorption factor (unitless)	CS ^c

^a Chemical-specific; refer to EPA's Integrated Risk Information System (<http://www.epa.gov/iris/subst/index.html>) or other appropriate EPA reference.

^b Soil Screening Guidance: User's Guide, EPA 1996.

^c Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment), EPA/540/R-99/005.

^d Chemical-specific; refer to EQ5.

^e Chemical-specific; refer to Table A-1.

Soil_{NHEM} - Noncarcinogenic Effects - Inorganic Constituents (mg/kg):

$$ED_i \times EF_i \times \left[\left(\left(\frac{1}{RfD_o} \right) \times 10^{-6} \frac{kg}{mg} \times IRS_i \right) + \left(\left(\frac{1}{RfD_o} \right) \times 10^{-6} \frac{kg}{mg} \times SA_i \times AF_i \times ABS \right) \right] \times \frac{THQ \times BW_a \times AT_{ni} \times 365 \text{ days / yr}}{\quad} \quad (EQ4)$$

Parameter	Definition (units)	Input Value
<u>Soil_{NHEM}</u>	<u>NHEM industrial risk-based chemical concentration in soil/sediment (mg/kg)</u>	--
<u>THQ</u>	<u>Target hazard quotient (unitless)</u>	<u>10</u>
<u>RfD_o</u>	<u>Oral reference dose (mg/kg-day)</u>	<u>CS^a</u>
<u>BW_a</u>	<u>Average adult body weight (kg)</u>	<u>70^b</u>
<u>AT_{ni}</u>	<u>Averaging time - noncarcinogens, industrial (yr)</u>	<u>70^b</u>
<u>EF_i</u>	<u>Industrial exposure frequency (days/yr)</u>	<u>250^b</u>
<u>ED_i</u>	<u>Industrial exposure duration (yr)</u>	<u>25^b</u>
<u>IRS_i</u>	<u>Industrial soil ingestion rate (mg/day)</u>	<u>50^b</u>
<u>SA_i</u>	<u>Skin surface area for an industrial worker (cm²/day)</u>	<u>3,300^c</u>
<u>AE_i</u>	<u>Soil-to-skin adherence factor for an industrial worker (mg/cm²)</u>	<u>0.2^c</u>
<u>ABS</u>	<u>Dermal absorption factor (unitless)</u>	<u>CS^d</u>

^a Chemical-specific; refer to EPA's Integrated Risk Information System (<http://www.epa.gov/iris/subst/index.html>) or other appropriate EPA reference.

^b Soil Screening Guidance: User's Guide, EPA 1996.

^c Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment), EPA/540/R-99/005.

^d Chemical-specific; refer to EQ5.

^e Chemical-specific; refer to Table A-1.

VF_i-Volatilization Factor- Organic Constituents(m³/kg):

$$\frac{(Q/C)x(3.14xD_A xT)^{1/2} x10^{-4} (m^2 / cm^2)}{(2x\rho_b xD_A)} \quad \text{---} \quad \text{(EQ5)}$$

where:

$$D_A(cm^2 / s) = \frac{[(\theta_a^{10/3} xD_i xH' + \theta_w^{10/3} xD_w) / n^2]}{\rho_b xK_d + \theta_w + \theta_a xH'} \quad \text{---} \quad \text{(EQ6)}$$

Parameter	Definition (units)	Input Value
<u>VF_i</u>	<u>Industrial soil-to-air volatilization factor (m³/kg)</u>	--
<u>D_A</u>	<u>Apparent diffusivity (cm²/s)</u>	--
<u>Q/C</u>	<u>Inverse of the mean concentration at the center of source (g/m²-s per kg/m³)</u>	<u>79.25</u>
<u>T</u>	<u>Exposure interval – industrial (s)</u>	<u>7.9E+08^a</u>
<u>ρ_b</u>	<u>Dry soil bulk density (g/cm³)</u>	<u>1.7^b</u>
<u>θ_a</u>	<u>Air-filled soil porosity (L_{air}/L_{soil})</u>	<u>n-θ_w</u>
<u>n</u>	<u>Total soil porosity (L_{pore}/L_{soil})</u>	<u>1 - (ρ_b/ρ_s)</u>
<u>θ_w</u>	<u>Water-filled soil porosity (L_{water}/L_{soil})</u>	<u>0.21^b</u>

Parameter	Definition (units)	Input Value
ρ_s	Soil particle density (g/cm ³)	2.65 ^b
D_i	Diffusivity in air (cm ² /s)	CS ^c
H'	Henry's Law Constant (dimensionless)	CS ^{c,d}
D_w	Diffusivity in water (cm ² /s)	CS ^c
K_d	Soil-water partition coefficient (cm ³ /g) = $K_{oc} \times f_{oc}$	CS ^c
K_{oc}	Soil organic carbon partition coefficient (cm ³ /g)	CS ^c
f_{oc}	Fractional organic carbon in soil (g/g) = percent organic matter/100 (ASTM 2974)	0.006 ^b

^a Soil Screening Guidance, User's Guide, EPA 1996.

^b LDEQ default value.

^c Chemical-specific.

^d $H' = H \times 41$ where: H = Henry's Law Constant (atm-m³/mol); R = Universal Law Constant (0.0000821 atm-m³/mole-°K); and T = Absolute temperature of soil (°K) [273 + °C (25 °C)].

Table A-1	
Dermal Absorption Factors ¹	
Constituent	ABS (unitless)
Arsenic	0.03
Cadmium	0.001
Chlordane	0.04
2,4-D	0.05
DDT	0.03
Gamma-hexachlorocyclohexane	0.04
TCDD	0.03
Pentachlorophenol	0.25
Polychlorinated biphenyls	0.14
Polycyclic aromatic hydrocarbons	0.13
Other semivolatile organic constituents	0.10
Other inorganic constituents (metals)	0
Volatile constituents	0

¹ Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment), Interim Guidance. EPA 2004. EPA/540/R-99/005.

GW_{NHEM} - Carcinogenic Effects - Volatile Constituents (mg/l):

$$\frac{TR \times AT_c \times 365 \text{ days/yr}}{EF_{ni} \times [(SF_i \times K_w \times IRA_{adj}) + (SF_o \times IRW_{adj})]} \times DF \quad \text{(EQ7)}$$

Parameter	Definition (units)	Input Value
GW_{NHEM}	NHEM chemical concentration in groundwater (mg/l)	--
TR	Target excess individual lifetime cancer risk (unitless)	10^{-5}
SF_o	Oral cancer slope factor ((mg/kg-day) ⁻¹)	CS^a
SF_i	Inhalation cancer slope factor ((mg/kg-day) ⁻¹)	CS^a
AT_c	Averaging time - carcinogens (yr)	70^b
EF_{ni}	Industrial exposure frequency (days/yr)	350^b
IRW_{adj}	Age-adjusted water ingestion rate (L-yr/kg-day)	1.1^b
IRA_{adj}	Age-adjusted inhalation rate (m ³ -yr/kg-day)	11^b
K_w	Water-to-indoor air volatilization factor (L/m ³)	$0.5^{c,d}$
DF	Dilution and Attenuation Factor (unitless)	100^c

^a Chemical-specific: refer to EPA's Integrated Risk Information System (<http://www.epa.gov/iris/subst/index.html>) or other appropriate EPA reference.

^b Human Health Medium-Specific Screening Levels, EPA Region VI, 2003.

^c *Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual (Part B, Development of Risk-Based Preliminary Remedial Goals)*, EPA 1991.

^d The water-air concentration relationship represented by the volatilization factor (K_w) is applicable only to chemicals with a Henry's Law Constant of greater than 1E-05 atm-m³/mole and a molecular weight of less than 200 g/mole.

GW_{NHEM} - Noncarcinogenic Effects - Volatile Constituents (mg/l):

$$THQ \times BW_a \times AT_{nni} \times 365 \text{ days / yr} \times DF \times \left[\left(\frac{1}{RfD_i} \times K_w \times IRA_a \right) + \left(\frac{1}{RfD_o} \times IRW_a \right) \right] \quad (EQ8)$$

Parameter	Definition (units)	Input Value
GW_{NHEM}	NHEM chemical concentration in groundwater (mg/l)	--
THQ	Target hazard quotient (unitless)	10
RfD_i	Inhalation reference dose (mg/kg-day)	CS^a
RfD_o	Oral reference dose (mg/kg-day)	CS^a
BW_a	Average adult body weight (kg)	70^b
AT_{nni}	Averaging time - noncarcinogens, non-industrial (yr)	30^b
EF_{ni}	Non-industrial exposure frequency (days/yr)	350^b
ED_{ni}	Industrial exposure duration (yr)	30^b
IRW_a	Adult water ingestion rate (L/day)	20^b
IRA_a	Adult inhalation rate (m ³ /day)	20^b
K_w	Water-to-indoor air volatilization factor (L/m ³)	$0.5^{c,d}$

Parameter	Definition (units)	Input Value
DF	Dilution Factor (unitless)	100

^a Chemical-specific; refer to EPA's Integrated Risk Information System (<http://www.epa.gov/iris/subst/index.html>) or other appropriate EPA reference.

^b Human Health Medium-Specific Screening Levels, EPA Region VI, 2003.

^c *Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual (Part B, Development of Risk-Based Preliminary Remedial Goals)*, EPA 1991.

^d The water-air concentration relationship represented by the volatilization factor (K_w) is applicable only to chemicals with a Henry's Law Constant of greater than $1\text{E-}05\text{ atm-m}^3/\text{mole}$ and a molecular weight of less than 200 g/mole.

GW_{NHEM} - Carcinogenic Effects - Non-Volatile Constituents (mg/l):

$$\frac{TR \times AT_c \times 365 \text{ days / yr}}{EF_{ni} \times (SF_o \times IRW_{adj})} \times DF \quad \text{(EQ9)}$$

Parameter	Definition (units)	Input Value
GW _{NHEM}	NHEM chemical concentration in groundwater (mg/l)	--
TR	Target excess individual lifetime cancer risk (unitless)	10^{-5} ^a
SF _o	Oral cancer slope factor ((mg/kg-day) ⁻¹)	CS ^b
AT _c	Averaging time - carcinogens (yr)	70 ^a
EF _{ni}	Non-industrial exposure frequency (days/yr)	350 ^a
IRW _{adj}	Age-adjusted water ingestion rate (L-yr/kg-day)	1.1 ^a
DF	Dilution Factor (unitless)	100

^a Chemical-specific; refer to EPA's Integrated Risk Information System (<http://www.epa.gov/iris/subst/index.html>) or other appropriate EPA reference.

^b Human Health Medium-Specific Screening Levels, EPA Region VI, 2003.

GW_{NHEM} - Noncarcinogenic Effects - Non-Volatile Constituents (mg/l):

$$\frac{THQ \times BW_a \times AT_{ni} \times 365 \text{ days / yr}}{EF_{ni} \times ED_{ni} \times (1 / RfD_o \times IRW_a)} \times DF \quad \text{(EQ10)}$$

Parameter	Definition (units)	Input Value
GW _{NHEM}	NHEM chemical concentration in groundwater (mg/l)	--
THQ	Target hazard quotient (unitless)	10
RfD _o	Oral reference dose (mg/kg-day)	CS ^a

<u>Parameter</u>	<u>Definition (units)</u>	<u>Input Value</u>
<u>BW_a</u>	<u>Average adult body weight (kg)</u>	<u>70^b</u>
<u>AT_{nni}</u>	<u>Averaging time - noncarcinogens, non-industrial (yr)</u>	<u>30^b</u>
<u>EF_{ni}</u>	<u>Non-industrial exposure frequency (days/yr)</u>	<u>350^b</u>
<u>ED_{ni}</u>	<u>Non-industrial exposure duration (yr)</u>	<u>30^b</u>
<u>IRW_a</u>	<u>Adult water ingestion rate (L/day)</u>	<u>2^b</u>
<u>DF</u>	<u>Dilution Factor (unitless)</u>	<u>100</u>

^a Chemical-specific; refer to EPA's Integrated Risk Information System (<http://www.epa.gov/iris/subst/index.html>) or other appropriate EPA reference.

^b Human Health Medium-Specific Screening Levels, EPA Region VI, 2003.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq. and, in particular, 2186(A)(2).

HISTORICAL NOTE: Promulgated by the Office of the Secretary, Legal Affairs Division, LR 33: **.

Chapter 51. Fee Schedules

§5147. Fee for NHEM Determination for Contaminated Environmental Media

A. A fee of \$3,000 shall be submitted at the time a request for a review of contaminated environmental media for a NHEM determination is made in accordance with LAC 33:V.106.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq. and, in particular, 2186(A)(2).

HISTORICAL NOTE: Promulgated by the Office of the Secretary, Legal Affairs Division, LR 33: **.

**FISCAL AND ECONOMIC IMPACT STATEMENT
FOR ADMINISTRATIVE RULES**

LOG #: HW092

Person

Preparing

Statement: Sharon Parker

Dept.:

Department of Environmental
QualityPhone: 225-219-3559

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Office of the SecretaryReturn P.O. Box 4302
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Rule

Remediation of Sites withTitle: Contaminated
Media (LAC 33:V.105, 106, 199, and 5147)

Date Rule

Takes Effect: Upon Promulgation**SUMMARY**

(Use complete sentences)

In accordance with Section 953 of Title 49 of the Louisiana Revised Statutes, there is hereby submitted a fiscal and economic impact statement on the rule proposed for adoption, repeal or amendment. THE FOLLOWING STATEMENTS SUMMARIZE ATTACHED WORKSHEETS, I THROUGH IV AND WILL BE PUBLISHED IN THE LOUISIANA REGISTER WITH THE PROPOSED AGENCY RULE.

I. ESTIMATED IMPLEMENTATION COSTS (SAVINGS) TO STATE OR LOCAL GOVERNMENTAL UNITS (Summary)

There will be no costs or savings to the state to implement this proposed rule. There may be some savings to the local governments in remediation costs of contaminated sites.

II. ESTIMATED EFFECT ON REVENUE COLLECTIONS OF STATE OR LOCAL GOVERNMENTAL UNITS (Summary)

An increase in revenues will occur as a result of the new fee implemented with the proposed rule, as well as an increase in solid waste tonnage fees collected by the department. Although the revenue increase cannot be estimated with certainty, the department estimates the receipt of as many as 150 new applications annually. DEQ is authorized to collect a fee not to exceed \$3,000 for each new review and determination. Ultimately, the amount of fee revenue collected from these determinations and any additional solid waste fees collected will depend upon business decisions which are voluntarily made within the regulated community.

III. ESTIMATED COSTS AND/OR ECONOMIC BENEFITS TO DIRECTLY AFFECTED PERSONS OR NON-GOVERNMENTAL GROUPS (Summary)

Commercial businesses, industries, local governments and individual property owners could see savings in remediation costs of contaminated sites due to a reduction in disposal and transportation costs.

IV. ESTIMATED EFFECT ON COMPETITION AND EMPLOYMENT (Summary)

This proposed rule could stimulate the environmental cleanup consulting business and that of construction companies performing the cleanup procedures due to the accelerated activity of owners/operators performing voluntary and necessary remediation of contaminated sites, as well as the solid waste landfills which will receive the generated waste.

Signature of Agency Head or Designee

Legislative Fiscal Officer or Designee

Herman Robinson, CPM Executive Counsel
Typed Name and Title of Agency Head or Designee

Date of Signature

Date of Signature

LFO 03/09/2001

FISCAL AND ECONOMIC IMPACT STATEMENT FOR ADMINISTRATIVE RULES

The following information is requested in order to assist the Legislative Fiscal Office in its review of the fiscal and economic impact statement and to assist the appropriate legislative oversight subcommittee in its deliberation on the proposed rule.

- A. Provide a brief summary of the content of the rule (if proposed for adoption or repeal) or a brief summary of the change in the rule (if proposed for amendment). Attach a copy of the notice of intent and a copy of the rule proposed for initial adoption or repeal (or, in the case of a rule change, copies of both the current and proposed rules with amended portions indicated).

This proposed rule provides an evaluation process to manage listed hazardous waste based on risk for sites that are contaminated and require remediation. The proposed rule additionally implements the fee authorized by Act 778 for this evaluation.

- B. Summarize the circumstances which require this action. If the Action is required by federal regulation, attach a copy of the applicable regulation.

One of the most significant impediments to progress in the RCRA corrective action program has been the high cost of remediation waste management. Consequently EPA has devoted much attention to management of remediation wastes and instituted a number of changes to the corrective action program that are designed to tailor management requirements to the real risks posed by the wastes. Current regulation causes contaminated environmental media to retain the description of having RCRA-listed waste "contained-in," therefore complicating and impeding the remediation of the site or possibly halting it completely due to administration and disposal issues. This rule will remove a regulatory hurdle that deters site remediation by promulgating the guidance the Environmental Protection Agency (EPA) has recommended. The rule will also result in simplification of the waste handling process by reducing administrative requirements and providing greater consistency with non-RCRA waste handling requirements and practices.

This rule will provide strong motivation to initiate and accelerate voluntary remediation of contaminated sites without increasing risks to human health or the environment.

- C. Compliance with Act 11 of the 1986 First Extraordinary Session
(1) Will the proposed rule change result in any increase in the expenditure of funds? If so, specify amount and source of funding.

No increase in expenses will be incurred.

- (2) If the answer to (1) above is yes, has the Legislature specifically appropriated the funds necessary for the associated expenditure increase?

(a) ☐ Yes. If yes, attach documentation.

(b) ☐ No. If no, provide justification as to why this rule change should be published at this time.

This question is not applicable.

FISCAL AND ECONOMIC IMPACT STATEMENT**WORKSHEET****I. A. COSTS OR SAVINGS TO STATE AGENCIES RESULTING FROM THE ACTION PROPOSED**

1. What is the anticipated increase (decrease) in costs to implement the proposed action?

COSTS	FY 06-07	FY 07-08	FY 08-09
PERSONAL SERVICES	-0-	-0-	-0-
OPERATING EXPENSES	-0-	-0-	-0-
PROFESSIONAL SERVICES	-0-	-0-	-0-
OTHER CHARGES	-0-	-0-	-0-
EQUIPMENT	-0-	-0-	-0-
TOTAL	-0-	-0-	-0-
MAJOR REPAIR & CONSTR	-0-	-0-	-0-
POSITIONS (#)	-0-	-0-	-0-

2. Provide a narrative explanation of the costs or savings shown in "A.1.", including the increase or reduction in workload or additional paperwork (number of new forms, additional documentation, etc.) anticipated as a result of the implementation of the proposed action. Describe all data, assumptions, and methods used in calculating these costs.

There are no costs or savings to the state to implement this proposed rule.

3. Sources of funding for implementing the proposed rule or rule change.

SOURCE	FY 06-07	FY 07-08	FY 08-09
STATE GENERAL FUND			
AGENCY SELF-GENERATED			
DEDICATED			
FEDERAL FUNDS			
OTHER (Specify)			
TOTAL	-0-	-0-	-0-

4. Does your agency currently have sufficient funds to implement the proposed action? If not, how and when do you anticipate obtaining such funds?

Current funding sources are sufficient to implement the proposed rule.

B. COST OR SAVINGS TO LOCAL GOVERNMENTAL UNITS RESULTING FROM THE ACTION PROPOSED.

1. Provide an estimate of the anticipated impact of the proposed action on local governmental units, including adjustments in workload and paperwork requirements. Describe all data, assumptions and methods used in calculating this impact.

There may be some savings to local governments regarding remediation costs of contaminated sites. Savings would be from the conversion of fees for hazardous waste transportation and disposal to lower solid waste transportation and disposal fees.

2. Indicate the sources of funding of the local governmental unit which will be affected by these costs or savings.

Local government budgets for environmental cleanups would see savings from the conversion of fees for hazardous waste transportation and disposal to lower solid waste transportation and disposal fees. The new application fee implemented by this rule should be offset by the savings for transportation and disposal.

FISCAL AND ECONOMIC IMPACT STATEMENT**WORKSHEET****II. EFFECT ON REVENUE COLLECTIONS OF STATE AND LOCAL GOVERNMENTAL UNITS**

- A. What increase (decrease) in revenues can be anticipated from the proposed action?

REVENUE INCREASE/DECREASE	FY 06-07	FY 07-08	FY 08-09
STATE GENERAL FUND			
AGENCY SELF-GENERATED	\$450,000	\$450,000	\$450,000
RESTRICTED FUNDS*			
FEDERAL FUNDS			
LOCAL FUNDS			
TOTAL	\$450,000	\$450,000	\$450,000

*Specify the particular fund being impacted.

- B. Provide a narrative explanation of each increase or decrease in revenues shown in "A." Describe all data, assumptions, and methods used in calculating these increases or decreases.

There should be an increase in revenues due to the proposed rule. It is expected that facilities will participate more actively in the corrective action program being implemented by this proposed rule resulting in payment of the new fee to the state for the review of their corrective action plan. This will also generate an additional solid waste tonnage fee paid to the department. Although the revenue increase cannot be estimated with certainty, the department estimates the receipt of as many as 150 new applications annually. DEQ is authorized to collect a fee not to exceed \$3,000 for each new review and determination. Ultimately, the amount of fee revenue collected from these determinations and any additional solid waste fees collected will depend upon business decisions which are voluntarily made within the regulated community.

III. COSTS AND/OR ECONOMIC BENEFITS TO DIRECTLY AFFECTED PERSONS OR NONGOVERNMENTAL GROUPS

- A. What persons or non-governmental groups would be directly affected by the proposed action? For each, provide an estimate and a narrative description of any effect on costs, including workload adjustments and additional paperwork (number of new forms, additional documentation, etc.), they may have to incur as a result of the proposed action.

Commercial businesses, industries, local governments, and individual property owners could see a savings in remediation costs of contaminated sites due to a reduction in disposal and transportation costs. This would encourage the continued cleanup of sites and restoration of sites as marketable property.

- B. Also provide an estimate and a narrative description of any impact on receipts and/or income resulting from this rule or rule change to these groups.

Savings in expenses could be realized due to decreases in costs for disposal and transportation.

IV. EFFECTS ON COMPETITION AND EMPLOYMENT

Identify and provide estimates of the impact of the proposed action on competition and employment in the public and private sectors. Include a summary of any data, assumptions and methods used in making these estimates.

This proposed rule could stimulate the environmental cleanup consulting business and that of construction companies performing the cleanup procedures, due to the accelerated activity of owners/operators performing voluntary and necessary remediation of contaminated sites, as well as the solid waste landfills which will receive the generated waste.